REMARKS

Claims 1-32 remain pending. By this Amendment, claims 1 and 27 are amended as proposed in the telephonic interview conducted with Examiner Siek on October 26, 2005.

Applicants' undersigned representative wishes to thank Examiner Siek for the constructive telephonic interview conducted on October 26, 2005. Therein, the amendments made herein were presented and discussed. Examiner Siek indicated that he understood and appreciated the arguments presented concerning the patentable distinction of the amended independent claims over the applied Amparan et al. published patent application. It was agreed that the present RCE and responsive Amendment would be filed in order to afford the Examiner additional opportunity to consider the matter. The substance of the interview is described further below, in the context of the points raised by the sole rejection asserted in the final Office Action.[1]

Claims 1-2, 4-10, 14-15, 18, and 20-26 stand rejected under 35 U.S.C. 102(e) as allegedly being anticipated by published patent application US 2004/0245011 (Amparan et al.). This rejection is respectfully traversed.

In the interview, the undersigned explained that, as described at paragraph 30 of Amparan et al., Amparan et al.'s Fig. 8 grid layout results from application of an auto router. Conventional auto routers, which Amparan et al. apparently employs to arrive at a clean layout as shown in Fig. 8 (lacking cross-over), do not take into account current requirements of associated components in routing trace paths. Thus, Amparan et al.'s disclosed process for achieving the layout of Fig 8 does not teach or suggest the claimed step or functionality of

[1] The final Office Action indicates that claims 3, 11-13 and 16-17 are drawn to allowable subject matter.

generating an enhanced set of voltage wireframes specifying trace paths which account for stored current requirements of associated components.

Conventional auto routers typically work with a minimum amount of user-defined information. Common electrical connections between devices are assigned a name (also known as a net name), and the user is allowed to define three additional objects: a typical (preferred) trace width value, a minimum trace width value (optionally may be defined), and a spacing value (distance between traces with different net names). Insofar as applicants are aware, no known auto routers predating applicants' invention provided for user-definition of current requirements (e.g., initial, steady state, peak, and/or peak-to-peak) or otherwise took into account the electrical current needs of components when routing traces. Typically, when a conventional auto router is making connections (based on a user-defined priority to be attempted from the first to the last net), the auto router will use the typical trace width until it runs into a space limitation that can be solved by using a narrower width, and will only use that narrower width for the least amount of distance. There is no system check to see if use of the narrower width will satisfy the current requirements of associated components. This determination is only made after the fact by a human being.

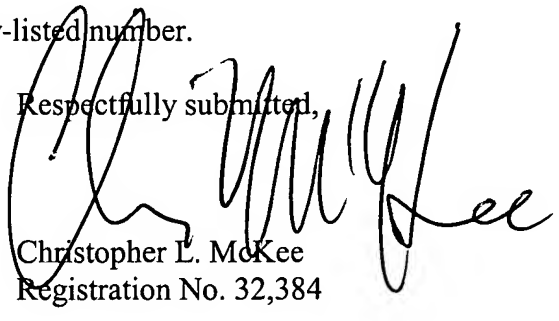
According to Amparan et al., the disclosed potential/contour solver approach of Amparan et al.'s first embodiment can be applied to the layout of Fig. 8, to establish boundaries within which trace widths may be expanded. In this connection, it is explained that "[t]he extent to which the traces of the second nodes 820 are expanded depends upon the potential and gradient thresholds, as specified by the user." Para. [0032]. As discussed in the interview, the potential/contour solver approach of Amparan et al., including the expansion of trace widths within the established boundaries, also fails to teach or suggest a step or functionality of

generating through electronic data processing an enhanced set of voltage wireframes specifying trace paths which account for stored current requirements of associated components and have no or a reduced quantity of crossover, as claimed. According to Amparan et al's methodology, a clean wireframe (the layout of Fig. 8) has been previously produced through use of an auto router (without taking into account the current requirements of associated components), as described above.

With Amparan et al.'s approach, the constraints of the voltage potential and gradient threshold set by the user as part of the potential/contour solver approach (Para. [0031]) may not permit a trace width sufficiently large to handle the current requirements for all of the associated components. This is confirmed by para. [0033] of Amparan et al., which describes that "a user may further verify that a trace corresponding to a boundary created using the first method or the second method has a sufficient width and a sufficient resistance to meet design requirements." This comment makes clear that at the time that the layout of Fig. 8 is established, it is unknown whether it will in fact be possible to provide trace widths sufficient to meet the current requirements of the associated components, within the limits established through use of the potential/contour solver approach. In contrast, with the present invention, the need for post-layout verification and correction to ensure that trace widths are adequate to meet current requirements can be avoided, as current requirements are taken into account during the process of creating the enhanced wireframe.

For all of the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in even better form for allowance, he is respectfully urged to telephone applicants' undersigned representative at the below-listed number.

Respectfully submitted,



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